

Major-league baseball's drug cheats are the subject of an investigation and face tougher penalties and public exposure when they are caught using steroids.

Congress has ratcheted up prison sentences for convicted steroid dealers, and federal drug agents are showing a new willingness to cooperate with sports officials in tracking down athletes who use banned drugs.

And in virtually every high school in the country, young athletes are taught about the health risks associated with the use of performance-enhancing drugs.

According to experts, those are some of the lasting impacts of the BALCO steroids scandal, the ongoing federal investigation that revealed the use of banned performance-enhancing drugs by some of the greatest athletes of the era.

The BALCO probe began nearly four years ago, when federal agents targeted suspected steroid dealing at the Bay Area Laboratory Co-Operative, a nutritional supplement firm in Burlingame. It first hit the headlines in 2003, when a federal grand jury subpoenaed the Giants' Barry Bonds, the New York Yankees' Jason Giambi, Olympian Marion Jones and 30 other sports stars who were BALCO customers.

In the years since then, "the paradigm has shifted" when it comes to the nation's awareness of drugs in sports, says Steven Ungerleider, an Oregon sports psychologist and doping expert.

Even as the BALCO case itself has wound down -- the two confessed drug dealers who were sentenced to prison completed their terms earlier this year -- a "national dialogue" on sports and drugs has continued and led to important reforms, he says.

Reform efforts have been driven by the barrage of media coverage and commentary about

the case, and pushed by lawmakers, doping experts, sports officials and a small group of activist parents who blame steroid abuse for their children's deaths.

Few advocates of doping control believe the BALCO reforms by themselves will rid sports of steroids. Still, they say the case has created opportunities for change that were unthinkable before.

BALCO is "as big as they come -- it's huge," says Dr. Don Catlin, the anti-doping scientist at UCLA whose investigation discovered the previously undetectable designer steroid "the clear," which was the linchpin of BALCO's chemical program for elite athletes. "It has totally changed the landscape of drugs in sports."

High school sports

Perhaps the most lasting impact from BALCO has come in the realm of high school sports.

When the BALCO story broke, steroid use was a growing problem in U.S. high schools. Surveys showed between 3 and 11 percent of American teens had used the drugs. In California, more than 20,000 teens were thought to have used steroids -- not just prep athletes, but boys and girls who hoped steroids would improve their looks by helping them lose weight or put on muscle.

Although BALCO involved sports stars, the heavy media coverage of the scandal drew attention to steroids and young people.

"I think the whole BALCO fiasco kind of put this out in the spotlight for people to realize this isn't just a professional athletic problem, it's all of ours," says Roger Blake, assistant executive director of the California Interscholastic Federation, which governs high school athletics.

In May 2005, the federation became the first state high school association in the nation to adopt an anti-steroid policy; it required every student-athlete to sign a contract promising not to use steroids, and required all coaches to complete a steroids-education course.

Soon after, the National Federation of State High School Associations started an anti-steroid education campaign aimed at every high school athlete in the nation. Titled "Make the Right Choice," it included videos geared toward coaches, athletes and parents. Many schools put on the program during preseason meetings, and practically every public-school student in the country has been exposed to some form of steroid education, according to a Chronicle survey.

Some state lawmakers seized on BALCO to push measures to reduce steroid use among the young.

In California, state Sen. Jackie Speier, D-Hillsborough, battled for two legislative sessions to get an anti-steroid measure enacted. In 2004, the Legislature passed a Speier bill that sought to bar coaches from selling performance-enhancing nutritional supplements to students. Speier argued that kids who use supplements often turn to steroids.

That measure was vetoed by Gov. Arnold Schwarzenegger, an admitted steroid user in his

bodybuilding days who at the time was moonlighting as executive editor of Muscle & Fitness, a magazine that promotes supplement sales.

Speier fought back, and in 2005, Schwarzenegger, who by then had quit Muscle & Fitness, signed a new measure written by Speier. It bans sale of many supplements and prohibits supplement companies from promoting their products at high school sports events. It also put into law the requirement that prep athletes promise not to use steroids.

Some states are considering drug-testing high school athletes, and a handful of districts are testing for performance-enhancers. New Mexico has created a steroids prevention task force that is exploring the feasibility of testing. In Texas, Lt. Gov. David Dewhurst is pushing what would be a \$2 million-per-year program of random steroids testing of all prep athletes in the state.

To date, New Jersey has gone furthest, requiring steroid testing of athletes at state championships.

"This is a growing public-health threat, one that we can't leave up to individual parents, coaches or schools to handle," then-Gov. Richard Codey said of the testing in 2005.

In lobbying for reform, anti-steroid activists have deployed the families of three young athletes who committed suicide after experimenting with steroids. Experts say that adolescents who use steroids are prone to psychological problems, including mood swings and depression.

The parents of the three -- Rob Garibaldi, a baseball star at Petaluma High School who later played at the University of Southern California; Efrain Marrero, a former lineman on the Vacaville High School football team; and Taylor Hooton, a high school pitcher in Plano, Texas -- all blamed the drugs for their sons' suicides.

After BALCO, the parents threw themselves into crusading against performance-enhancing drugs. They estimate they have spoken about steroids to more than 20,000 people, including athletes, parents, coaches, administrators and lawmakers.

"To know my child's death was not in vain and that his life has made a difference -- and that you're able to do something with that -- it's so meaningful," says Denise Garibaldi, Rob's mother.

To commemorate his son, Don Hooton set up the nonprofit Taylor Hooton Foundation. It raises money to educate young people about the dangers of steroids and has presented programs with the U.S. Drug Enforcement Administration, the National High School Coaches Association and other groups.

Recently, Hooton teamed with Major League Baseball for "Hoot's Chalk Talks," an antisteroid program for young athletes. Sessions were held last year at ballparks in Denver and Cleveland.

Baseball donated \$1 million to the foundation and made the ballparks available for the program. The teams directed coaches and trainers to help out, but no professional ballplayers have participated, Hooton said.

"I still think to this day, that most people I talk to have their heads in the sand," Hooton said. "They're still unaware how many of these kids are using this juice."

## Baseball's reforms

The BALCO scandal also forced Major League Baseball to toughen its steroid-enforcement policy. Repeatedly threatened with congressional intervention, baseball increased steroid penalties before the 2005 season and again at the end of the year.

Commissioner Bud Selig, who declined to be interviewed for this story, has proclaimed the toughened policy a success, declaring in July that "steroid use has been minimized" in the game. Doping experts say that, while still flawed, baseball's new program is far better than what existed pre-BALCO.

Nevertheless, baseball has made only limited headway in shaking the effects of its steroid scandal, largely because of Bonds.

The greatest star caught up in BALCO, Bonds was also the most deeply involved -- his weight trainer, Greg Anderson, pleaded guilty to dealing steroids, and The Chronicle has reported that investigators found documents reflecting Bonds' drug use in a raid on the trainer's home.

Bonds' BALCO connection made him a lightning rod for fans' dissatisfaction with steroids in the game. Under other circumstances, Bonds' 2006 drive to surpass Babe Ruth on the all-time home run list would have been a showcase for baseball. Instead, Bonds was booed and mocked by opposing fans, while corporate sponsors refused to underwrite a celebration when Bonds finally hit his 715th home run in May and passed Ruth's mark.

More troubling for the game, Bonds remains under federal investigation for allegedly lying when he told the BALCO grand jury that he had never knowingly used banned drugs. The trainer, Anderson, is in federal prison because he refused to answer a grand jury's questions about Bonds and drugs.

Before BALCO, baseball's steroid tests were confidential, and players caught using drugs received counseling rather than punishment. But after BALCO, Congress got involved.

The tipping point came in December 2004, when The Chronicle reported that Yankees slugger Jason Giambi had told the BALCO grand jury that he had used banned drugs, while Bonds admitted using BALCO substances that he said he thought were legal.

U.S. Sen. John McCain and other lawmakers threatened to intervene if baseball didn't address its doping problem. A month after The Chronicle reports, Selig and Donald Fehr, head of the players union, devised a new steroid policy that included a 10-day suspension for a first offense.

But Congress kept pressing, and convened nationally televised hearings in March 2005 that highlighted baseball's persistent drug problem. In response late last year, Selig and Fehr ratcheted up penalties again -- decreeing 50-game suspensions for first offenders and lifetime bans for three-time losers. Players also were subjected to multiple tests throughout the season.

Nevertheless, a Chronicle review shows that under two years of tougher policies, only 15 big-league drug cheats have been nabbed. Moreover, only one was a star: the Baltimore Orioles' Rafael Palmeiro, who denied drug use during the congressional hearings in 2005. He was suspended for 10 days after a positive test for steroids in 2005.

The number of cheats caught seems extraordinarily low, given revelations in the BALCO case and from major-league players who have admitted their own steroid use and claimed that the drugs are common in the game.

In the BALCO case, federal investigators obtained evidence that a single steroid dealer, Anderson, had supplied banned drugs to Bonds and eight other players, including Giambi and All-Star outfielder Gary Sheffield, then with the Atlanta Braves. None of those players faced discipline.

Early in the 2006 season, federal agents in the BALCO case seized human growth hormone at the home of Arizona Diamondbacks relief pitcher Jason Grimsley. Grimsley told the investigators he had used steroids throughout his big-league career and said many other players also used the drugs, according to court records.

After baseball began testing for steroids, Grimsley said, he switched to human growth hormone, a drug for which baseball does not test.

Grimsley, who was quickly suspended and released by the Diamondbacks, also identified six former teammates as users, but the government withheld their names from court records.

In a further effort to push past the steroid scandal, Selig in March hired former U.S. Sen. George Mitchell to investigate drug use in the game. The Mitchell probe was Selig's response to publication of "Game of Shadows," the book that focused on Bonds' role in the BALCO drug scandal.

Some who care about the game believe the Mitchell probe is still baseball's best hope for dealing with its drug problem.

"This is all about getting baseball back to where people can trust it and believe that baseball has a high moral position," says Fay Vincent, Selig's predecessor. "At the moment, everybody in baseball is tainted, from me on down. Everybody is believed to have either known what was going on, or failed to deal with the thing properly. So we all have an interest in finding out what happened."

But eight months after it began, Mitchell's probe appeared stalled. The players union has advised players not to talk to Mitchell without a lawyer present, and federal prosecutors put witnesses with knowledge of Bonds and drugs off-limits as well.

On Dec. 1, Mitchell said his inability to "compel testimony or the production of documents" was delaying the investigation.

Vincent said he is confident Mitchell will overcome the evidentiary problems and produce a meaningful report. If he becomes convinced baseball is stonewalling him, Mitchell could always call on Congress for help.

"Mitchell can go to a committee in Congress and say, 'Look, I couldn't get this done,' "Vincent says. "This is an important piece of work. I'll turn everything over to you, you have subpoena power, I'll work with you, let's get to the bottom of this. Those congressmen would love it."

## Tougher steroid laws

Not that long ago, cases related to steroids and nutritional supplements were a niche part of Rick Collins' criminal-defense practice. BALCO brought an avalanche of steroid prosecutions, and the New York lawyer says he has more work than he can handle.

In October 2004, prodded by the scandal, Congress passed the Anabolic Steroid Control Act of 2004. The new law banned many steroid-like substances, including the BALCO signature steroid, "the clear," and ultimately led to stiffer sentencing guidelines for steroids offenses.

A former competitive bodybuilder, Collins said BALCO emboldened law enforcement to make a broad attack on the use and the distribution of steroids.

"In the wake of the BALCO scandal, you had a high level of public consciousness and attention to the issue of anabolic steroids in sports," Collins said. "So it's not surprising that the Department of Justice would seek to show the public that they're taking the problem seriously."

But elite athletes have been spared prosecution for their illegal drug use.

In BALCO, investigators obtained evidence that more than 30 stars of track, baseball, football and other sports were using banned drugs -- a federal crime. But none of the athletes was indicted. Instead, they were granted immunity and brought before a grand jury, where they testified about the drugs they had received from BALCO founder Victor Conte and the others.

Since BALCO, the federal government has made only one other case involving sports stars and banned drugs, a probe involving human growth hormone use by members of the National Football League's Carolina Panthers.

Again, the athletes faced no criminal penalty.

The 2005 case involved Dr. James Shortt, a physician accused of prescribing steroids and human growth hormone to football players, including seven linemen from the Panthers' 2004 Super Bowl team.

After Shortt pleaded guilty and was sentenced to a year in jail, his lawyer, federal public defender Allen Burnside, criticized the government for "scapegoating" the doctor while letting the sports stars off the hook.

"The athletes in this case can hardly be considered victims," Burnside wrote to a federal appeals court, according to the Charlotte Observer. "Each of them was a co-conspirator. They willingly used the drugs and made obscenely large sums of money in the process. If the government in this case had been truly interested in sending a message that steroids will

not be tolerated in professional sports, they would have prosecuted these athletes."

Prosecutors in both the BALCO and Carolina cases said it was necessary to grant immunity to the athletes so the dealers could be prosecuted.

The BALCO case also showed that criminal prosecution for doping offenses can't always keep a sports figure from the arena of competition -- even if the competitors are high school athletes.

The case in point: veteran track coach and BALCO co-conspirator Remi Korchemny.

Korchemny, 71, was implicated in providing BALCO steroids and a banned stimulant to champion sprinter Kelli White. After a failed test ended her career, White told authorities that Korchemny, her coach since she was 12, had introduced her to banned drugs.

Korchemny pleaded guilty to illegally distributing a prescription drug. He was put on probation for one year, fined \$25 and ordered not to contact his BALCO co-defendants. But nothing required Korchemny to stop coaching or stay away from kids.

Korchemny soon was back on the track in the East Bay, working as a private coach for promising teen runners, according to e-mails he wrote. Last summer, when he began turning up at meets sponsored by USA Track & Field, coaches and parents complained.

"I got phone calls saying he wasn't supposed to be around youth at all," says Tony Williams, membership coordinator for the Pacific region of USA Track & Field, which governs Olympic track in the United States.

But Korchemny was free to coach. Only the U.S. Anti-Doping Agency, which runs Olympic drug-testing programs, can ban a coach for doping-related activity, said USA Track & Field spokeswoman Jill Geer. The organization recently adopted regulations aimed at penalizing coaches whose athletes are caught cheating, but it's too early to tell their impact. The anti-doping agency has since moved to suspend Korchemny.

To coaches concerned about drugs in sports, the situation is frustrating.

"We do everything we can to make sure our athletes are not around performance enhancers," said Berkeley High School track coach Darrell Hampton, in remarks he intended to be general in nature, and not specifically directed at Korchemny.

"But if you have people involved in the sport who have not just been accused, but have pleaded out -- well, they just don't need to go working with children."

Despite the frustration, many experts believe that law enforcement will have to play a larger role if sports are to control the use of performance-enhancing drugs. BALCO showed that science has made it easy for drug cheats to beat the most sophisticated testing programs. But the federal investigators ferreted them out.

BALCO "showed clear and convincingly that when government gets involved and they start digging into this thing, they are an enormous ally -- they run the show, really," said Catlin, whose UCLA anti-doping lab helped investigate the case.

## Scientific strategies

BALCO also has created more interest in developing ways to detect the use of performance-enhancing drugs.

One promising approach was devised by a scientist who happened to hear a radio news report about BALCO while driving home from work in 2003.

Dr. Barry Forman, a geneticist at the City of Hope National Medical Center in Southern California, is an expert on the triggering mechanisms that enable hormones to function in the human body. Science has learned that hormones are activated by binding to proteins called receptors, which are found in the nucleus of cells.

About 50 different receptors are known to exist, but only a handful of the triggering hormones have been identified. Forman is trying to identify these hormones; perhaps a newly discovered hormone could help control diabetes or heart disease.

One of the triggering hormones identified so far, he said, is testosterone, the male sex hormone also associated with building muscle. It binds to what is known as the androgen receptor.

"I was driving home from work and someone on the radio was talking about the BALCO scandal, and for some reason something clicked at that time," says Forman, a baseball fan. "The problem for the testing authorities is the same problem we face. The athletes have a hormone in their bodies -- in this case it's not a natural one, it's a synthetic one -- and people who are doing the testing need to be able to find out what it is.

"So I went back to the lab the next morning, and I said, 'Why don't we try this with the androgen receptor?' "

Forman ordered tests on blood samples that he spiked with the steroid nandrolone. The tests established that the steroid was binding to the androgen receptor and could be distinguished from naturally occurring testosterone.

Labs could use the same testing procedure to detect "the clear" or any other steroid in an athlete's blood, Forman says. Testing labs would no longer need to know the molecular structure of a steroid to test for it: Instead, the fact that the substance was binding to the androgen receptor could serve as proof that it was a performance-enhancing drug.

Forman said a similar procedure might also be devised to test for human growth hormone.

When it comes to doping control, "People now are fighting the last war rather than the next one," Forman said. "The game now is to catch up to the athletes and not be one step behind them."

Big-leaguers and banned substances

BALCO forced baseball to toughen its steroid-testing program. In the two seasons since then, 15 big-leaguers and 116 minor-leaguers have been suspended for using banned drugs. According to court records and news reports, 19 other big-leaguers have been implicated in

the use of steroids. Here, team by team, are the suspensions, allegations and admissions:

Seattle Mariners: Pitcher Ryan Franklin and bench players Jamal Strong and Mike Morse; nine minor-leaguers. In his book "Juiced," Jose Canseco wrote that second baseman Bret Boone, now retired, used steroids to hit .331 with 37 home runs in 2001. Boone denied it.

Giants: Six minor-leaguers, including former Giants Yamid Haad and Abraham Nunez. BALCO investigators have evidence that Barry Bonds used banned drugs supplied by his trainer, and outfielders Armando Rios and Marvin Benard and catchers Benito Santiago and Bobby Estalella confessed they got banned drugs from the trainer. Bonds denied wrongdoing.

Athletics: Seven minor-leaguers, including catcher David Castillo, who said he failed three drug tests after one steroid injection. Canseco said he and slugger Mark McGwire used steroids while on the A's in the 1980s. McGwire refused to comment. Investigators were told that retired infielder Randy Velarde got BALCO drugs while with the A's.

Rangers: Pitchers Agustin Montero and Carlos Almanzar; five minor-leaguers. Canseco said he saw steroid use by former Rangers outfielder Juan Gonzalez and catcher Ivan Rodriguez, now with Detroit. They denied wrongdoing.

Orioles: All-Star Rafael Palmeiro; three minor-leaguers. Retired first baseman David Segui told ESPN he used growth hormone while with the team.

Mets: Pitchers Guillermo Mota, Yusaku Iriki and Felix Heredia; five minor-leaguers.

Cubs: Seven minor-leaguers.

Pirates: Seven minor-leaguers.

Padres: Seven minor-leaguers.

Rockies: Outfielder Jorge Piedra; five minor-leaguers.

Angels: Six minor-leaguers.

Yankees: Outfielder Matt Lawton; three minor-leaguers. Jason Giambi told the BALCO grand jury that he got banned drugs from Bonds' trainer.

Dodgers: Five minor-leaguers.

Cardinals: Five minor-leaguers.

Devil Rays: Outfielder Alex Sanchez; one minor-leaguer. Canseco wrote that pitchers Wilson Alvarez and Tony Saunders and outfielder Dave Martinez used banned drugs. They denied wrongdoing.

Diamondbacks: Pitcher Jason Grimsley, after BALCO investigators found human growth hormone during search of his home; two minor-leaguers.

Braves: Three minor-leaguers. Outfielder Gary Sheffield, later with the Yankees, testified that he was tricked by Bonds and his trainer into using banned drugs.

White Sox: Four minor-leaguers.

Reds: Four minor-leaguers.

Royals: Four minor-leaguers.

Phillies: Three minor-leaguers.

Indians: Pitcher Rafael Betancourt; two minor-leaguers.

Twins: Pitcher Juan Rincon; two minor-leaguers.

Blue Jays: Three minor-leaguers.

Nationals: Two minor-leaguers, including infielder Ramon Castro, who drew the game's longest drug suspension, 105 games, for two failed tests in 2005.

Tigers: Two minor-leaguers.

Marlins: One minor-leaguer, twice -- former big-league infielder Wilson Delgado.

Brewers: Two minor-leaguers.

Astros: One minor-leaguer.

Red Sox: None. Outfielder Jeremy Giambi told the BALCO grand jury he used banned drugs in 2003. Retired pitcher Paxton Crawford said he used banned drugs from 1999 to 2001, telling ESPN that steroids were "everywhere" on the ball club.

Sources: steroidlist.com Web site; court records; Chronicle reporting and news services.

Schools become a front line of battle / National and state programs educate students on dangers

Since BALCO, virtually every U.S. high school student has been exposed to some form of education about steroids. The National Federation of State High School Associations instituted a multimedia campaign to educate students, coaches and parents. Many states took additional steps:

Alabama: Established "Learning Through Sports," a multimedia course that includes a steroids education component. It's currently recommended for coaches.

Arizona: Working on a drug-prevention Web site that every student-athlete would have to study.

California: First state to adopt an anti-steroids policy. Requires districts to ban steroids; requires students and parents to sign contract promising not to use them; forbids districts

accepting sponsorships from supplement manufacturers and bars coaches from promoting supplements; requires coaches to receive steroids education by 2008.

Connecticut: Is updating Chemical Health Policy to include penalties for athletes caught using steroids and to suggest testing in certain situations.

Florida: Enrolled 17 schools in Atlas/Athena drug- and alcohol-prevention program, which has a steroids focus.

Georgia: Banned the use of steroids. Added some drug education for coaches.

Illinois: Considering drug-testing and rules banning use and distribution of performance-enhancing drugs. Requires steroids education in all secondary schools.

Kentucky: Requires that coaches view the National Federation's educational program.

Louisiana: Added steroids to drug-abuse policy and required athletes and parents to sign nodrugs contract.

Maine: All school districts required by law to include anti-steroids language in their drug and alcohol policies.

Michigan: Participating in Atlas/Athena program.

Minnesota: Created student leadership program that includes steroids education and requires it be shown to parents and athletes.

Montana: Added steroids awareness to student leadership program.

Nevada: Created materials regarding alcohol and drugs, including a section on steroids; requires parents and athletes to watch the program and sign a contract.

New Jersey: Added random testing at state championships; state education code requires steroids education programs beginning in junior high school.

New Mexico: Began steroids education that will be required study at every school next year.

New York: Hired outside educator to conduct workshops upon request.

North Carolina: Hired outside addiction and prevention company, which created program to be viewed upon request.

Oregon: Working with Legislature on bill to bar coaches from supplying or encouraging use of steroids and dietary supplements. Participating in Atlas/Athena program.

Pennsylvania: Creating steroids education program.

South Dakota: Hired firm to create educational video for use at discretion of districts.

Tennessee: Created program with steroids component.

Texas: Requires students to sign contract saying they won't use steroids. Is creating online education program.

Virginia: Requires coaches, students and parents to view National Federation's education program. Participating in Atlas/Athena program.

Wisconsin: Created anti-steroid video and sent to all schools.

Editor's note: Chronicle writers Mark Fainaru-Wada and Lance Williams are appealing an 18-month prison sentence imposed after they refused to name for a federal grand jury the confidential sources who helped them uncover the steroids scandal involving BALCO and elite athletes in stories for the newspaper. They also are the authors of "Game of Shadows," the book about the BALCO scandal.E-mail the writers at <a href="mailto:mfainaru-wada@sfchronicle.com">mfainaru-wada@sfchronicle.com</a> and <a href="mailto:lwilliams@sfchronicle.com">lwilliams@sfchronicle.com</a>.

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